Blumer (Geo.)

# EXHIBITION OF A CASE OF HEMIPLEGIA WITH MOTOR APHASIA, OCCURRING IN A PATIENT CONVALESCING FROM TYPHOID FEVER.

*(From the Proceedings of the Johns Hopkins Hospital Medical Society.)*

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The case which I exhibit to-night illustrates one of the rare complications of typhoid fever, viz., hemiplegia with motor aphasia. The little girl was brought to the dispensary because of a paralysis of one side. The family history is negative and there is nothing of importance in her personal history. We saw her for the first time on the 23d of last August. Seventeen weeks before that she had an attack of typhoid fever, typical and somewhat prolonged. The attack began with malaise and a feeling of weakness; then there was a continuous fever for ten weeks, with constant headache, diarrhœa, pain in the abdomen, and mental dullness. Her brother had an attack at the same time. About one week after she had begun to eat solid food she was suddenly seized with violent convulsions. This attack occurred about eight o'clock in the morning while she was at breakfast. She was immediately put to bed. The convulsions were confined almost entirely to the right side as far as the extremities were concerned. The movements were also quite marked in the head, but I have been unable to find out definitely from her mother whether they were confined to the right side of the face or not. These movements were violent from eight o'clock in the morning till four o'clock in the afternoon. At four o'clock the movements of the head and face almost ceased, but the movements in the arm and leg continued with greater or less intensity for two days. During that time the child seemed unable to speak and did not seem to understand anything. About five weeks after the onset of these convulsions she began to recover the

use of both limbs on the right side, which up to then had been paralyzed, and some power of speech. At first she did not recognize any of her family, or, rather, probably recognized them but miscalled them, calling her father "mother," and so on. At the time she was brought to the dispensary she was able to walk, although she dragged the right foot a little. The arm had not recovered like the foot. There was no evidence of facial paralysis at that time and no hemianopsia. She apparently at that time had a pure motor aphasia. She understood perfectly all that was said to her, would do anything she was asked to do, but when an object was held up to her, while apparently recognizing it, would often call it by the wrong name. Some few things she would name correctly. Since she has been in the Hospital she has been improving steadily as far as speech is concerned and now names most objects correctly. There has also been some slight improvement in the walking. In the arm there has been no apparent improvement. The arm is generally held at right angles, as you observe it; it is a rigid paralysis. She is unable to move her elbow and can hardly move her fingers. She shows no signs of facial paralysis; the tongue is protruded straight, and there is apparently no abnormality about the muscles around the angles of the mouth.

We have here a complete right-sided hemiplegia originally with motor aphasia. The question is, what was the lesion which produced it? The lesion evidently implicated the motor areas in the cortex and also the area presiding over motor speech, that is to say it implicated the ascending frontal and ascending parietal convolutions, and also the posterior portion of the third left frontal convolution. Was the lesion a hemorrhage, was it a thrombus or an embolus? The age of the child is rather against the lesion being a hemorrhage, as is also the fact that the irritative lesion lasted such a long time. In case of a hemorrhage of such an extent, in all probability destruction of the tissue would have taken place at a much earlier period and the irritative lesions would have ceased. As for an embolus, there never was any source of origin for an embolus, there being no heart lesion at all. Of course the child had gone through a very long period of illness, and in such illnesses there is always a chance for the formation

of thrombi in the auricular appendages, and the dislodgment of these thrombi with subsequent emboli and softening. It is impossible, of course, to make an absolute diagnosis between thrombosis and embolism in this case. We have been led to make the diagnosis of thrombosis by the similarity of this case to another case which occurred in this hospital earlier in the year. In that case the patient was seized with convulsions, which were not, however, one-sided as in the child's case, but which terminated fatally in a short time. At the autopsy, extensive thrombosis of the greater number of the branches of the middle cerebral artery was found. In the present case the first three branches of the middle cerebral—the inferior frontal, the ascending frontal and the ascending parietal—were probably involved. We have two arterial trunks to be considered. Sometimes the inferior frontal and ascending frontal branches arise from a single trunk; sometimes the ascending frontal and ascending parietal branches arise from a single trunk; and it is possible that all three might arise from a single trunk. In the latter event we would have to take into consideration only a single thrombus in the common trunk. We can, however, assume that there was a partial thrombosis of the middle cerebral, the thrombus covering the origin of these three branches and cutting off the blood supply. The fact that the signs of irritation existed so long before the actual paralysis would rather point to softening than to primary destruction by hemorrhage.

These cases are apparently pretty rare. I have been able to find but six or seven cases in the literature at my command, some with convulsions and some without. There was one case reported by Doctor Gee in 1878 which was almost identical with this. He was inclined to think it was due to embolus, although there was no heart lesion to account for it. He thought it might have originated in one of the auricular appendages.

Dr. Thayer.—I had the good fortune to observe two quite similar cases while *interne* in the Massachusetts General Hospital, in the service of Dr. G. G. Tarbell, with whose kind permission these notes are communicated:

*Case* 1.—J. McD., aged 21, single, a currier, was admitted to the Massachusetts General Hospital on the 6th of October,

1888. His family history was good; previous history negative. He had complained for two weeks of headache and "sore bones." Four days before entry he gave up work and went to bed. Physical examination showed a large, well-formed man; well nourished; face flushed; conjunctivæ injected; lips and mucous membranes of good color; tongue moist, thick yellow coat. The abdomen was rather depressed; moderate tympanitic gurgling in the ilio-caecal region; slight tenderness in the epigastrium; a few rose spots on abdomen and back. The area of splenic dullness was enlarged; spleen easily felt.

*Urine* normal; acid; 1020; albumen, trace; sediment slight; hyaline and finely granular casts. 7, 10, 88.—"Stupid and apathetic; numerous rose spots." 9, 10, 88.—No change. 11, 10, 88.—"To-day has been particularly stupid, puts tongue out only when spoken to sharply. Swallows milk when it is poured into his mouth, but cannot be made to suck it through a tube. Pulse rather small, somewhat dicrotic." 12, 10, 88 (10th day).—"At about 1 A. M. the ward tender noticed that the patient was unable to move the right leg and arm. At 12.15 A. M. the patient was seen in bed, on his back, face flushed, eyes half closed, pupils rolled upwards, equal, respond to light. Conjunctivæ injected; wrinkles on the left side of the mouth slightly more marked than on the right. Patient is very stupid, will not protrude the tongue when asked to. When asked questions, several times made a noise as if trying to answer, but seemed unable to speak. Unable to move right hand, arm, or leg. The arm or leg can be placed in any position without movement. When asked sharply to move the arm he pulls it with the left hand. Cutaneous reflexes present on the left side, absent on the right. Marked ankle-clonus on the right side; bicipital reflex increased on the right. Patellar and tricipital reflexes not markedly increased on the right. Pulse 80, regular, of moderately good strength." 13, 10, 88.—"This morning the condition of the patient is about the same. In the sputa-cup is about an ounce of a viscid, finely aerated mucous and blood-stained expectoration; a purulent matter. Some of the blood in streaks, some rather intimately mixed and dark in color." 14, 10, 88.—"Yesterday afternoon and to-day the patient seems to be brighter; smiles when spoken to; tried to speak, but is unable to articu-

late words." 18, 10, 88.—On this date the temperature, which had been gradually falling, reached the normal point, and the following note was made: "The patient is decidedly brighter; when spoken to he seems to understand what is said, but shakes his head, indicating that he cannot speak. Cannot protrude tongue, but opens his mouth better; the drawing of the mouth to the left side has grown much more marked. On more careful examination it seems much more doubtful whether he understands the remarks made to him. He looks brighter, but on a more careful examination he appears to shake and nod his head, usually nodding without regard to the question asked." (It may be said that the nurses who were constantly about him were convinced that he understood perfectly what was said.) 20, 10, 88.—"Temperature normal. From the 25th to the 7th of November patient had slight rises of temperature and cough with the blood-stained expectoration and evidences of a consolidation at the left base. On the 30th of October he was able to protrude his tongue." 13, 11, 88.—"Improving; bright and cheerful; cannot talk; makes a meaningless noise to attract one's attention; cannot copy any noise or word." 27, 11, 88.—"There is still moderate dulness through the left side, with somewhat modified respiration and medium and coarse râles on inspiration." 3, 12, 88.—"Can turn over in bed." 6, 1, 89.—"Can pull himself up in bed and stand alone." 10, 12, 89.—"Can say a few words indistinctly; can write his name with his left hand." 11, 1, 89.—"He desires to go home; can walk fairly well, though cannot go up and down stairs. Can understand what is said to him apparently perfectly well; reads the paper, can say but a few words. As far as can be seen, understands the use of articles shown him but cannot name them. Can move right arm from the shoulder, but can move muscles of forearm but little; is bright and cheerful, but sometimes cries when he fails to do something which he attempts."

*Case* 2.—J. D., 10 years of age, school girl, was admitted to the Massachusetts General Hospital on the 21st of November, 1888, with characteristic symptoms of typhoid fever of five days duration. The urine was free from albumen. Rose spots were noted for the first time on the 25th of November. On the 9th of December, the twenty-third day of the disease,

it was noted that the patient was "dull, in a typhoidal condition; defecation and micturition involuntary." 10, 12, 88.—"Yesterday afternoon the nurse noticed that the child did not answer questions and lay persistently on the right side. This morning cannot speak; apparently understands questions; tongue protruded straight when asked; no facial paralysis; motion and sensation in legs good; right arm and hand are moved slowly and with difficulty; grasp of right hand decidedly weaker than left; reflexes apparently not exaggerated." 13, 12, 88.—"To-day made a few sounds; nurse thought she said 'milk.'" 16, 12, 88.—"Has said several words this morning; calls 'nurse'; cries out; smiles when spoken to, evidently understands what is said; uses right hand and arm almost as well as left." 20, 12, 88.—"Talks a good deal; says, 'yes, yes,' and 'no, no' to herself." 27, 12, 88.—"Talks more and expresses herself fairly well." 4, 1, 89.—"The temperature was normal to-day for the first time." 18, 1, 89.—The patient had been up and about, but while she talked and understood what was said, she appeared decidedly weak-minded and irritable; very dull; it is noted that she "still seems stupid and weak-minded." 23, 1, 89.—"Has been doing perfectly well; walking about; hungry all the time; mentally still stupid and below par. Two days ago insisted that one of the patients had stolen her clothes and that she had been sent for to come home. Mother came for child to-day and she was discharged."

Thus, in each of these instances, during the height of an uncomplicated typhoid fever (10th and 24th days), in young and robust individuals, there appeared suddenly a right-sided hemiplegia with complete motor aphasia. In neither case were there convulsions.

I had not seen another instance of this nature until the case of my unfortunate colleague, to which Dr. Blumer has referred. The lesion in each of the Boston cases was probably a thrombosis; there were none of the ordinary sources for an embolus; the heart was in good condition in each case. Arterial thromboses, though rare, do occur in other regions, while venous thromboses are, of course, common.